

Appl. No.: 10/573,950
Amdt. dated November 10, 2009
Reply to Office action of October 8, 2009

Amendments to the Claims:

1. (Currently Amended) A stent configured to reduce traumatization of a vessel wall, the stent comprising:

a tubular support frame that can be expanded from an initial state to a support state, in which the tubular support frame comprises at least two annular segments that are formed by struts that are interconnected in a corrugated manner via transitional sections and in which adjacent annular segments are coupled by connectors, wherein one of the annular segments corresponds to a proximal end of the tubular support frame and one of the annular segments corresponds to a distal end of the tubular support frame, wherein every other transitional section at the proximal and distal ends of the tubular support frame has a widened head end having a larger maximum width measured transverse to a longitudinal axis of the tubular support frame than a head end of an adjacent transitional section, wherein each widened head end that axially projects proximally at the proximal end and distally at the distal end and has a convexly rounded front section, concavely rounded throat sections between the head end and the struts connected to the head end, and convexly rounded edge sections extending between the convexly rounded front section and the concavely rounded throat sections, wherein the concavely rounded throat sections are configured to intermesh with, and extend at least partially over and abut, adjacent transitional sections in the initial state, and wherein each of the struts are substantially parallel to one another in the initial state.

2. (Canceled)

3. (Canceled)

4. (Previously Presented) The stent according to Claim 1, further comprising a plurality of deflection elements for a thread looping around the outside of the support frame that are arranged on the annular segments at the proximal and distal ends of the support frame, wherein each deflection element comprises an eyelet configured to receive a thread therethrough.

5. (Previously Presented) The stent according to Claim 1, wherein each connector has a longitudinal section running substantially parallel to a longitudinal axis of the stent and

comprises a compensation section aligned transversally to the latter and configured in a U or V shape.

6. (Previously Presented) The stent according to Claim 5, wherein the U-shaped or V-shaped compensation sections of the connectors are arranged in an area between two axially adjacent, spaced annular segments.

7. (Previously Presented) The stent according to Claim 1, further comprising an annular segment interconnected to an adjacent annular segment at the proximal or distal ends of the tubular support frame, wherein the connectors extend out from a ridge area of two struts of the annular segment to the transitional section of the adjacent annular segment at the proximal or distal ends of the tubular support frame.

8. (Previously Presented) The stent according to Claim 1, wherein the connectors are aligned in axial succession.

9. (Previously Presented) The stent according to Claim 4, wherein each strut comprises first and second ends, and wherein each widened head portion is located at the first ends of the annular segments at the proximal and distal ends of the support frame and each deflection element is located at the second ends of the struts.

10. (Previously Presented) The stent according to Claim 4, wherein at least a portion of each deflection element is configured to be positioned adjacent to at least a portion of an adjacent connector in the initial state.

11. (Previously Presented) The stent according to Claim 1, wherein each strut comprises first and second ends, and wherein each head end is spaced outwardly from the first ends of adjacent struts by a distance corresponding to the concavely rounded throat sections.

12. (Previously Presented) The stent according to Claim 1, wherein each widened head end axially projects further proximally at the proximal end of the tubular support frame and further distally at the distal end of the tubular support frame than an adjacent transitional section.

13. (Previously Presented) The stent according to Claim 1, wherein each transitional section comprises convexly curved side edges that are configured to intermesh with adjacent concavely rounded throat sections in the initial state.

14. (Previously Presented) The stent according to Claim 1, wherein the rounded edge sections of adjacent widened head ends are spaced apart from another in the initial state.

15. (Previously Presented) The stent according to Claim 5, wherein the longitudinal section of each connector is substantially parallel to each of the struts in the initial state.

16. (Previously Presented) The stent according to Claim 4, wherein each deflection element projects axially from a respective transitional section.

17. (Previously Presented) The stent according to Claim 16, wherein each deflection element is configured to intermesh with, and extend at least partially over, an adjacent transitional section in the initial state.

18. (Previously Presented) The stent according to Claim 1, wherein a width of each widened head end measured transverse to a longitudinal axis of the tubular support frame is larger than a width of each widened head end measured along the longitudinal axis.

19. (Previously Presented) The stent according to Claim 1, wherein each annular segment has substantially the same amplitude measured between respective transitional sections about its circumference.

20. (Previously Presented) The stent according to Claim 1, wherein each widened head end comprises a solid material.

21. (Currently Amended) A stent configured to reduce traumatization of a vessel wall, the stent comprising:

a tubular support frame that can be expanded from an initial state to a support state, in which the tubular support frame comprises at least two annular segments that are formed by

struts that are interconnected in a corrugated manner via transitional sections and in which adjacent annular segments are coupled by connectors, wherein one of the annular segments corresponds to a proximal end of the tubular support frame and one of the annular segments corresponds to a distal end of the tubular support frame, wherein each annular segment has substantially the same amplitude measured between respective transitional sections about its circumference, wherein every other transitional section at the proximal and distal ends of the tubular support frame has a widened head end having a larger maximum width measured transverse to a longitudinal axis of the tubular support frame than a head end of an adjacent transitional section, wherein each widened head end that axially projects proximally at the proximal end and distally at the distal end and has a convexly rounded front section, concavely rounded throat sections between the head end and the struts connected to the head end, and convexly rounded edge sections extending between the convexly rounded front section and the concavely rounded throat sections, wherein the concavely rounded throat sections are configured to intermesh with, and extend at least partially over and abut, adjacent transitional sections in the initial state.

22. (New) The stent according to Claim 9, wherein each connector comprises a longitudinal section running substantially parallel to a longitudinal axis of the stent and a compensation section, and wherein each deflection element is configured to extend adjacent to an adjacent longitudinal section and extend between a compensation section of an adjacent annular segment and at least a portion of the second ends of adjacent struts in the initial state.

23. (New) A stent configured to reduce traumatization of a vessel wall, the stent comprising:

a tubular support frame that can be expanded from an initial state to a support state, in which the tubular support frame comprises at least two annular segments that are formed by struts that are interconnected in a corrugated manner via transitional sections and in which adjacent annular segments are coupled by connectors, wherein one of the annular segments corresponds to a proximal end of the tubular support frame and one of the annular segments corresponds to a distal end of the tubular support frame, wherein every other transitional section

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at the proximal and distal ends of the tubular support frame has a widened head end that axially projects proximally at the proximal end and distally at the distal end and has a convexly rounded front section, concavely rounded throat sections between the head end and the struts connected to the head end, and convexly rounded edge sections extending between the convexly rounded front section and the concavely rounded throat sections, wherein the concavely rounded throat sections are configured to intermesh with, and extend at least partially over and abut, adjacent transitional sections in the initial state, and wherein the tubular support frame further comprises a plurality of deflection elements for a thread looping around the outside of the support frame that are arranged on the annular segments at the proximal and distal ends of the support frame, wherein each deflection element comprises an eyelet configured to receive a thread therethrough.